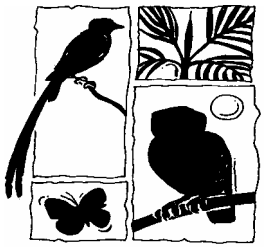

SPECIES CONSERVATION ASSESSMENT & ACTION PLAN

Seychelles black paradise flycatcher

Vev/Veuve

Terpsiphone corvina

SUMMARY CONSERVATION ASSESSMENT & ACTION PLAN GOAL AND OBECTIVE	
IUCN Threat Status	*Critical B1+2c*
Range	*11km^2*
Population estimate	*150-200*
Population trend	*Increasing*
Altitude	*Lowland*
Habitats	*Plateau forest, Wetland*
Threats	*Habitat loss*
GOAL	***To reduce the threat of extinction of by reclassifying the species from critically endangered to vulnerable***
OBJECTIVE	***To increase the number of breeding populations to at least three by 2006***

Authorship

Dave Currie, Rachel Bristol, and Selby Remie prepared this Action Plan with the assistance of Mike Hill, James Millett, Nirmal Shah and Clive Hambler

First Draft :
Peer Review Committee :
Final Draft :
Approved (workshop) :

1. INTRODUCTION

The flycatcher was originally recorded on at least five of the inner-granitic islands in the Seychelles archipelago[1-4], but now is only found on two, and is currently listed as critically endangered[5]. The majority, c.150-200 birds[6] are currently found on the La Digue (10km^2), most of which (c.80%) are on the large 161 ha western plateau, while a small population (c.3-5) individuals was recently rediscovered on Marianne (0.9km^2) after a recorded absence of 60 years[7]. Systematic research in the 1970s and 80s provided baseline data on its ecology, and habitat requirements: there is a well-documented, but not exclusive, association between the flycatcher and native broad-leaved plateau woodland, primarily Takamaka *Calophyllum inophyllum* and Badamier *Terminalia catappa,* especially in proximity to marsh/wetland areas[8-11]. The recommendations of this research were instrumental in the creation of the Veuve Special Reserve in 1991. A monitoring program was set up 1996-97[6], followed by a two-year project 1999-2001, which further quantified habitat requirements and determined the suitability of other islands for translocation[12]. Outputs from this project are expected 2001-2002.

Status and level of biological knowledge (Not known, 1-poor, 2-adequate, 3-good)		
Population	Size Trend, numbers Trend, range	3 2 2
Knowledge of	Status Trends Conservation requirements	3 1 2

2. FAMILY & GENUS

Family: Muscicapidae, Genus: Terpsiphone

Terpsiphone is a widespread genus occurring over most of sub-Saharan Africa, southern and eastern Asia and the Mascarenes. The number of recognised species is either 12 or 13 depending on authors[13,14]. The Seychelles black paradise flycatcher is the most endangered species in the genus. Of the remaining species, one other (*T. smithii*) is listed as vulnerable and three (*T. bedfordi, T. atrocaudata, T. cyanescens*) are listed as near threatened[5]. Although many species in the genus have broad habitat requirements and appear to be able to tolerate degraded habitats[15,16], the loss of preferred woodland habitat appears to be the main threat to these four threatened species[5].

3. IDENTIFICATION

A small (*c*.18 g), sexually dimorphic passerine: the male is black and has two long central tail feathers (up to 30cm long) and a blue eye ring and bill, while the female and juvenile have a black head, creamy white and chestnut under-parts and chestnut upper-parts and tail[1]. It is impossible to confuse with any other Seychelles resident bird species.

Voice – whistled song usually given by males, but also by females. Males frequently heard singing early morning 0530-0600h[6,11]. Alarm call is a harsh *szzweet*.

4. RANGE AND POPULATION

There are no records of flycatcher distribution prior to the 1860s. Since this time, the species has been recorded on Praslin, La Digue, Aride, Marianne and Félicité[1-4]. In the late 19th and early 20th century, it experienced a significant reduction in range, coinciding with the clearance of native broad-leaved plateau forest and draining of wetlands as part of the expansion of the local copra industry and plantation agriculture. Small populations appear to have been more vulnerable to extinction, and only populations on the larger islands survived these clearances. As of late 1970s, there were two known surviving populations: c.60 birds on La Digue and a small population (c.5 individuals) on Cote D'Or, Praslin[9,11]. There were also sporadic, but unconfirmed reports of individuals on Félicité and Marianne during this time. The Praslin population appears to have gone extinct sometime in the late 1980s[17]. The La Digue population was estimated at c.30 individuals in the 1960s[18], remained relatively constant at c.60 individuals 1978-1988[11], and has more than doubled in the following 12 years to c.150-200 individuals in 1997[6]. Reasons for this increase are unclear as, paradoxically, it has occurred in parallel with a period of extensive land development, and a documented increase in fragmentation and reduction of native broad-leaved woodland habitat[6,11,19,20]. On La Digue the bird also survives the presence of introduced (potential) adult and nest predators; black rat *Rattus rattus*, domestic cat *Felis cattus*, barn owl *Tyto alba affinis* and common *mynah Acridotheres tristis*. An extensive survey of the inner-granitic islands using playback of conspecific calls in 1999-2000 confirmed the current distribution as Marianne and La Digue[22].

SIZE AND LOCATION OF POPULATIONS

Location	Estimated population size (territorial pairs)	Year of most recent estimate
Marianne	1-2	2001[21]
La Digue	67	1997[6]

5. ECOLOGY

The flycatcher appears to be exclusively insectivorous. Diet includes Orthoptera, Lepidoptera, Coleoptera, Araneae and Diptera[11,17,23], although numerous very small unidentifiable prey items are also taken. Individuals can feed throughout the vegetation strata, although normally mid-canopy (males proportionately lower than females[11,23]), predominantly by gleaning prey items from surface of leaves (either on the wing or from a perched position), and to a lesser extent taking aerial insects in flight[11,22,23].

Nests, in which normally one egg is laid, are usually located at the end of thin branches, mainly in Takamaka and Badamier (usually 2m to 10m high)[11]. Breeding can occur throughout the year, although the peak in nesting occurs during the north-west monsoon

(December-March)[11]. Both sexes incubate and provision the single nestling, although male parental efforts can vary[11]. Unlike many other species of Seychelles' endemic birds, it appears to tolerate the presence of rats and cats, although their impact on nest and adult predation is unknown.

On La Digue's western plateau there is a marked overlap in distribution of territories and that of native broad-leaved forest[11,23]. Territory density on this plateau is highest close to permanent water (canal)[11,23], while the majority of territories are also within 200m of semi-permanent (standing) water[6,23]. The association between flycatchers and woodland areas in proximity to wetland areas has been explained by a supposed preference for insect prey dependent on water[11]. However, recent research questions the importance of water dependent prey in diet, and of wetland areas *per se* on invertebrate availability and foraging and breeding success for the La Digue population[23]. The two surviving populations in the 1970s on Praslin and La Digue were associated with native plateau woodland in proximity to extensive wetland areas, but the other three islands in the flycatcher's original range (Marianne, Félicité and Aride) have small plateaux and currently very seasonal wetlands[21].

6. SOCIO-ECONOMIC CONTEXT

The flycatcher undoubtedly experienced a contraction in its range following the human settlement of Seychelles in the 1770s, and the subsequent associated loss of forest habitat (see above).

Because the bird is attractive and the largest surviving population has been confined to La Digue for the last 50 years, the species has become a flagship species for the island. The visitor centre alongside the Vev Special Reserve provides the opportunity for tourists, some of which visit the island specifically to observe the bird, to learn about and observe the flycatcher in the company of a trained warden.

7. THREATS

The major threat to the flycatcher on La Digue is habitat loss through deforestation: for example housing (traditionally the price of timber from felled trees on land contributed to the cost of development), tourist development, clearance for agriculture, and more recently Takamaka wilt *Leptographium (*Verticilium*) calophylli* – a virulent and fast spreading vascular wilt disease, which defoliates and kills Takamaka[25,26]. Currently, the majority of pairs occur outside the reserve, many on privately owned land making their territories more vulnerable to loss or degradation through development.

Most territories on La Digue are on the highly developed western plateau, where they come into close contact with the human populace. Direct interference, for example destruction of nests and killing of adults, has declined (catapults were banned in 1991), but still occurs. Since flycatcher numbers have significantly increased in the last 12 years, island residents may have become complacent regarding the bird's conservation: it remains the rarest bird species in the Seychelles after the Seychelles magpie robin *Copsychus sechellarum*.

The flycatcher appears to tolerate current introduced avian and mammalian, however, the large amount of development and importation of building materials makes invasion by new alien species a possibility.

THREAT TYPE	DESCRIPTION	IMPORTANCE (Critical, High, Medium Low/Immediate or Potential)
Direct threats	Human interference	L/I
	Adult/nest predation by introduced predators	H/P
	Rise in sea level	H/P
Indirect threats	Habitat loss	H/I

8. CONSERVATION ACTION TO DATE

Policy & Legislative

The flycatcher is protected under Seychelles law (Wild Animals and Bird Protection Act, Wild Bird Protection Act, Section 2), while Takamaka and Badamier are protected under the Breadfruit and other Trees Protection Act, and can only be felled under license. The entire plateau of La Digue is classified as a sensitive area under the Environment protection act (1994) EIA regulations (1996).

Site Safeguard

In 1979, 8 ha of mature broad-leaved (Takamaka and Badamier) woodland was leased by Christopher Cadbury and jointly managed by the Royal Society for Nature Conservation (RSNC) and the Seychelles Government. At the time it held c.20% of the world flycatcher population. In 1991, this woodland was designated a special reserve (The Veuve Special Reserve), and is protected under Seychelles law (The National Parks and Conservancy Act). The proposed extension to the reserve 2001-2002, which encompasses mainly marsh, will increase the size of reserve from 8 ha to 21 ha. The majority of territories occur out side the reserve and the proposed extension, and protection of these is limited as many occur in woodland on privately owned land. Protection afforded to these territories is restricted to the control of felling of Takamaka and Badamier via licensing and detailed scrutiny of development proposals prior to obtaining environmental authorization.

Species Management & Protection

Studies in 1970s and 80s[8,10,11,22] lead to the creation and management of the Veuve Special Reserve in 1991. Due to the flycatchers presumed association with wetlands[6,11], several measures have been employed to ensure the quality of the western plateau's extensive freshwater marsh. These involved the building of a sluice gate built to limit the influx of salt water into the marsh 1995[27] and the protection of ground water supply when a new landfill site was established in 1996[28]. The proposed detrimental effect of introduced water lettuce *Pistia*

stratiotes[29] on the marsh ecosystem and invertebrate availability has also lead to its systematic and continued removal from the marsh and associated waterways.

Advocacy

To date, the major conservation actions carried out have been the creation and management of the reserve (and proposed extension), banning of catapults, legal safeguards for Takamaka and Badamier, and measures directed at protecting the quality of the marsh.

Difficulties remain in limiting development and replanting trees, particularly on the western plateau, due to multiple private land ownership and development pressures. Intensive monitoring involving colour-ringing adults and pulli recommended in 1996/97[6] was carried out 1999-2001[21,23].

Creation of additional populations has been frequently recommended[6,9,30]. However, prior to 2000 the options of translocation to rat and cat free islands were limited and further complicated by a lack of islands with sufficient areas of suitable habitat (Takamaka and Badamier forest) to create viable populations. Following the predator eradication campaign carried out by Government in partnership with island owners on Curieuse and Denis islands, research has identified these islands as the best available predator free islands (as of June 2001) for creation of additional viable populations. Curieuse has been viewed as a candidate introduction site for decades on account of relatively extensive freshwater and mangrove wetlands[8,9]. Other medium sized islands (North, Marianne and Félicité) have been identified as being able to support viable populations in the future should introduced predators be eradicated and habitat management measures be invoked[21,32]. The translocation of individuals to larger islands e.g. Praslin and Silhouette, even in the presence of alien predators, may prove the best option for significantly increasing numbers and ultimately securing the long-term future of flycatcher. However, until land ownership issues and the impact of introduced predators on adult survivorship and breeding success have been resolved the prudent approach is to create additional viable populations on smaller more easily managed, predator free, islands, before such ambitious translocations are considered.

Research & Monitoring

Research in late 1970s and early 1980s provided baseline ecological data on status, distribution, ecology and habitat requirements[8,10,11,21]. A monitoring program was set up in 1996/97, accompanied with a series of recommendations[6]. A GEF/World bank funded project 1999-2001[12] implemented many of the recommended research proposals, and identified islands suitable for translocation.

Education & Awareness

The flycatcher has appeared on a number of Seychelles stamps (1972, 1976, 1978 and 1996)[34]. There is an information centre run by the Division of Environment in the Veuve Special Reserve, and this holds a number of displays targeting both locals and tourists.

One of the local children's wildlife clubs is named after the “Vev”, and the bird is widely used as the symbol of La Digue. There has been considerable local media coverage (TV, press and radio) associated with the GEF/World Bank project[12] and the previous EU project. Talks have been given at the school and to tourists about the project. Information posters have been posted around La Digue on several occasions informing members of the public about various aspects of the project.

Co-operation & Participation

To date there has been little systematic work using participatory techniques to assist with the conservation of the flycatcher. However, in the future, discussion with stakeholders (La Digue island residents and land owners, private island owners, Government and conservation bodies) regarding its conservation on La Digue and possible translocation to other suitable islands will be important.

Resources

ICBP and WWF funded early research which resulted in baseline data on ecology of the flycatcher[8,10,11]. The monitoring regime set up 1996/97[6] was funded by BirdLife International under an EU supported project, and the recent two year project investigating the suitability of other islands[12] was funded by BirdLife Seychelles under a World Bank financed project. The alien predator eradication project carried out on Denis and Curieuse was funded by the Dutch Government, Seychelles Government and the island managers.

9. ACTION PLAN REVIEW

This Action Plan should be reviewed every 5 years, but brought forward in circumstances of predator eradication and/or island restoration.

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11. ACKNOWLEDGEMENTS

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SEYCHELLES BLACK PARADISE FLYCATCHER ACTION PLAN

OVERALL GOAL

TO REDUCE THE THREAT OF EXTINCTION OF BY RECLASSIFYING THE SPECIES FROM CRITICALLY ENDANGERED TO VULNERABLE

OBJECTIVE

To increase the number of breeding populations to at least three by 2006

ACTIVITY	TIMETABLE	INDICATORS	LEAD RESP.	PRIORITY *(CHML)*
POLICY & LEGISLATIVE				
Agreement on translocation of birds	2001-2	Protocols agreed	MoET BLS	Critical
Confirm development plan for La Digue includes sufficient prescriptions for flycatcher conservation	2001-3	Development plan implemented	Planning Authority	Critical
Establish new protected area extension	2002	Extension of reserve secured	MoET	High
SITE SAFEGUARD				
Develop and implement Management Plan for extended protected area	2002-6	Plan produced Implementation of measures commenced	MoET	High
Replanting of plateau with native tree species (not Takamaka)	2003-6	Increase in forest area	MoET	Critical
Limit and mitigate against forest clearance, particularly in areas utilized by flycatchers	Ongoing	Decrease rate of forest loss	MoET	Critical
Enhance favorable management of marsh	Ongoing	Marsh restored	MoET	High
SPECIES MANAGEMENT & PROTECTION				
Establishment of breeding populations on 2 other islands	2001/2	Translocation of individuals to other islands	MoET BLS	Critical
Rehabilitate one more island	2006	Island identified	To be identified	High
Management plan for reserve extension	2002-6	Plan written	MoET	High
Continued management of habitats	ongoing	Reports written	MoET	High
Contingency plan to control introduction of novel alien species	2001-2	Plan written	MoET BLS	High
ADVOCACY				
Promote implementation of a cat neutering/eradication program on La Digue	2001-6	Reduction in cat numbers	MoET	High
Work with La Digue community on need and possibility for translocation	2001-6	Meetings held	MoET BLS	High
Purchase further land on La Digue when possible	Ongoing	Additional land purchased	MoET	High
Seek government approval for translocation	2001-2	Cabinet approval	MoET	High
Work with community to replant woodland species	2002-6	Woodland area increased	MoET	High

RESOURCES				
Translocation and habitat restoration by integration in restoration projects	ongoing	Funding secured	MoET island owners BLS	High
MoET continues input	ongoing	Budget secured	MoET	High
New restoration project funded	ongoing	Source funding	To be identified	High
RESEARCH & MONITORING				
Investigate restoration on one large island >200 ha.	2002-3	Reports produced	BLS MoET	High
Comprehensive census of entire range	2003	Report produced	MoET BLS	High
Continued systematic monitoring of sub-set of territories, including colour ringing of adults and pulli	2001-6	Reports produced	MoET	High
Monitor forest area and spread of Takamaka wilt	2001-6	Reports produced	MoET	High
EDUCATION & AWARENESS				
Improve exhibition in Veuve special reserve centre	2001-2	New displays produced	MoET	Medium
PR for translocations and future conservation measures on La Digue	2001-2	Media coverage	MoET	Critical
Produce information leaflet on flycatcher/all endemic birds and distribute appropriately	2001-2	Leaflet produced	BLS MoET	Medium
Incorporate in to education and awareness materials on ecosystems	Annual	Newsletters Bird curriculum pack	BLS MoET	Medium
COOPERATION & PARTICIPATION				
Continue collaboration with important stakeholders	2001-6	Monitoring protocols agreed	MoET BLS	Medium